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New patterns in corporate sustainable development?

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Abstract

Based on longitudinal data, collected in the Danish industry over a period of almost two decades, this paper addresses how strategic decision-makers have responded to the influence of stakeholders with regard to the natural environment in terms of prioritizing its relevance as manifested in their activities over time. More specifically, it seeks to answer how the stakeholders' perceived influence develops over time and if and how changes have affected firms' environmental activities. Based on a pre-tested structured questionnaire distributed to a random sample of small and medium-sized industrial firms in Denmark, data has been collected on an identical basis every fourth year since 1995. Before concluding, the paper addresses key implications for corporate managers and other affected decision-makers. The study concludes, that the sustainability topic has succeeded in gradually moving up the strategic agenda in industry (despite the presence of a severe international crisis during the last part of the period) suggesting that environmental strategic initiatives have become an enduring or lasting endeavour.

Keywords: environmental management; stakeholders; strategic priority; upper echelon; managerial engagement; longitudinal data

1. Introduction

Over the past two to three decades, Denmark has undergone a series of environmental regulations affecting industrial activities. This implies, that Danish firms have had many years to adapt to the situation and that a growing body of green management know-how has been available for quite a while. However, depending on the contextual specificity of the region considered, differences in terms of environmental regulations and concern exists. In regions like Denmark (as chosen in this study), other key

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stakeholders (apart from the environmental legislators) for example have increasingly become important in driving environmental self-regulation. This study aims at shedding more light on this issue.

In parallel to the increasingly stricter environmental regulation, a growing interest has been directed towareds self-regulation - as opposed to the previous and predominant 'demand-and-control-approach'. Self-regulation has been widely embraced and promoted by industry and some of its influential stakeholders (Schmidheiny, 1992). Early cases of self-regulative initiatives have also been reported (Ulhøi, 1997). However, in terms of evidence, such 'examplar' cases are hardly representative for the general situation. Similarly, many of the existing empirical studies have focused on large firms despite the fact that SMEs play a significant role in most economies as do the cumulative environmental effects following from their activities, leaving the role and importance of SMEs somewhat overlooked. Given the strategic importance and relevance of corporate greening, this paper focuses on how the environmental sustainability theme has penetrated the corporate strategic agenda in general and its underlying drivers and the extent to which this situation may have changed over time. Despite its obvious strategic relevance, existing evidence on the strategic dimensions of sustainability from the perspective of the individual industrial agent remains scattered and inconclusive in terms of how it has been recognized over time. This research aims to fill some of that void.

This leads to the overall research question that has guided this research: how have strategic decision-makers responded to the influence of stakeholders with regard to the natural environment in terms of prioritizing its relevance as manifested in their activities over time? More specifically, it attempts to find out if and/or how stakeholders' influence has developed over time and if and/or how changes have affected firms' environmental activities. The study has been designed as an explorative and longitudinal study aiming at documenting potential strategic shifts and/or changes over a longer period of time. The remainder of the paper is organized as follows: The next section briefly reviews the literature on the greening of strategic management followed by an outline of the methodology. Section (4), the results are analyzed and discussed. Before concluding, the paper briefly sketches out some of the key implications for managers and relevant policy-makers.

2. Literature review

When considering the growth and or developments in terms of corporate greening, the focus has been on greening and its impact on firm performance, greening and strategic positioning in particular and to a lesser extent on greening and corporate stakeholders. Below we will briefly review all three streams of literature. In this study, however, we have chosen to address the latter that is focusing on how firms perceive and address the environment at the strategic level from the stakeholder perspective.

2.1. Greening and firm performance

Addressing corporate greening from the point of view of strategy, research has looked into the extent to which investment in corporate greening has affected financial performance in the firms in question. Although some indications of a positive correlation have been found between investment in corporate greening and outcome in terms of financial performance, there is no widespread consensus on this important issue. Similarly, the nature of the environmental initiatives is likely to impact the financial outcome. In a study of SMEs, Clemens (2006) also documented a positive relationship between the greening activities of firms and their financial performance.

This has also been evidenced in a US study of 500 US firms, drawn from the Standard and Poor's list of corporations (thus being biased towards large enterprises) for example, where it shows that investments in pollution prevention and emission reduction in particular seem to pay for the slower and inefficient initiatives (Hart and Ahuja, 1996). More recent investigations from Taiwan (Chien and Peng, 2012) have found that initiatives targeting emission reduction through pollution prevention seem to leave visible and positive footprints on the bottom line within one or two years. The study further showed, that the biggest and fastest bottom-line advantages accrued to 'the high polluter' where a lot of low cost improvements can be made with positive results (the 'low hanging fruit" thesis). Evidence from finance has shown that financially sound firms can afford to be socially responsible; however, that social responsibility does not seem to translate into subsequent financial success (Donald et al., 2004).

2.2. Greening and strategic positioning

Scholars have argued for a positive relationship between investments in corporate greening and corporate positioning (Porter and Kramer, 1996). Rodriguez et al. (2002) showed how changes in the competitive landscape driven by sustainable development have influenced the way in which firms develop their resources, capabilities and activities which has translated into an increased persistency of competitive advantages. Others have emphasized dynamic scanning and the ability to reconfigure capabilities as critical enablers for facilitating a firm's strategic move towards sustainability and increased competitive advantage (Qiang et al., 2012). More recently, an entire Special Issue was devoted to address how firms can integrate sustainability into their business models (Arevalo et al., 2012).

Recent findings from studies of the New Zealand wine industry identified a number of different themes when searching for competitive advantages based on sustainability: pursuing and leveraging sustainability; telling a story that involves sustainability; managing supply chain relationships around sustainability; and experimenting with sustainability initiatives Flint and Golicic (2009). Strategic advantages following from incorporating sustainability may not be restricted to large enterprises (LEs), because green SMEs may pursue different strategic options: (i) becoming valuable sustainable investment targets, (ii) forming competitive networks of green SMEs in market areas where the LEs are less successful and/or (iii) becoming more efficient suppliers in the global supply chain networks (Moore and Manning, 2009).

2.3. Greening and corporate stakeholders

Basically, stakeholder theory assumes that an organization is held together by a coalition of different holders of different stakes (grounded in different interests). Stakes are not restricted to be legally defined but can also be grounded in morals and values. Stakeholder theory has gained attention over the years when trying to come to grips with what or who drives managers in commercial firms to green their activities (see e.g. Fineman & Clarke, 1996; Clarke and Room 1999; González-Benito, 2011 and Garcés-Ayerbe, 2012). When considering the environmental aspects of corporate activities, not only relevant stakeholders, such as for example owners, employees and the legislative authorities, should be considered, but also local and international environmental groups, local neighbours worried by, for example, noise or dust, and local, national or international groups engaged in natural preservation or reconstruction. In general, stakeholder theory acknowledges that some stakeholders, the primary stakeholders (owners, managers, employees, partners), are needed for securing a going concern. In consequence, they have been referred to as primary stakeholders. Others, like environmental interest groups and other NGOs, are not required for maintaining a going concern, thus such stakeholders have been referred to as secondary stakeholders (Clarkson, 1995). This 'primary-secondary' taxonomy however, does not necessarily apply to the potential influence from stakeholders in driving corporate greening. Appealing as this may appear, such simple categorization may not quite work in the case of environmental drivers (Madsen & Ulhøi, 2001).

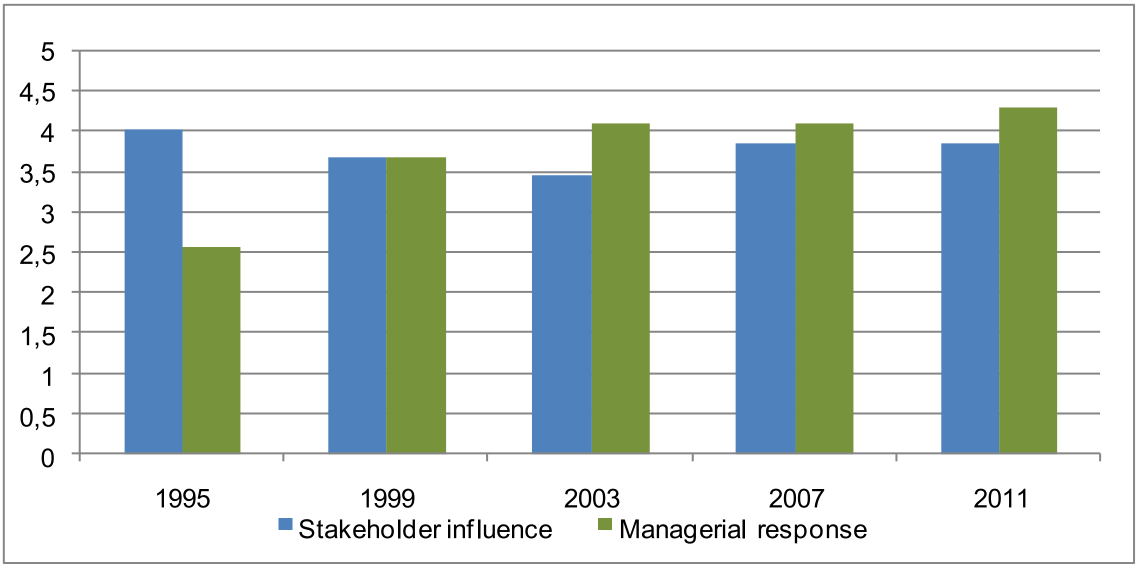
3. Methodology

Five full-scale surveys have been carried out every fourth year since 1995, the most recent in 2011. In all surveys, samples of industrial companies in Denmark with 10 employees or more were drawn randomly from an electronic database. The initial sample in each survey consisted of some 500 companies, which represented around 10% of the sampled population. The response rate has been around 60% in all surveys. The topics in the survey include environmental policy, environmental strategy, specific environmental goals, assignment of environmental management responsibility, environmental audit, environmental reporting, environmental certification (EMAS and ISO 14001), product LCA, membership of environmental networks etc. The topics were formulated in structured questions formulated as scale of items based on input from various related research published in relevant journals and books. Related response scales allowed responses to be given on five-point ordinal scales so that questions could be answered by expressing the level of perceived stakeholder influence or initiatives taken. It should be noted that instead of measuring awareness by the managers' personal attitude towards environmental issues, an alternative has been applied in this paper represented by the managers' perception of the influence from various stakeholders to engage in different environmental-related initiatives ranging from the operative level and up to the strategic level. To analyze the data, a number of statistical techniques like correlation analysis and factor analysis using principal component analysis and varimax rotation will be applied (see e.g. Hair et al., 2005). By applying these techniques, it is possible to identify potential underlying latent structures in the responses as well as potential relationships between the structures.

4. Results and discussion

In this research, stakeholder influences have been perceived as potential forces of influence, that drive firms to prioritize environmental considerations strategically in relation to their strategic plans and concrete initiatives. Below, the overall development in perceived stakeholder influence and strategic initiatives taken from 1995 to 2011 is shown in figure 4.1.

Figure 4.1. The development in perceived stakeholder influence and managerial responses taken measured on a scale ranging from 0 to 10



As can be seen from table 4.1, the development in perceived stakeholder influence has fluctuated during the period considered in this study. A decline in the perceived influence has set in from 1995 and right up to 2003. Since then, the development in stakeholder influence has increased until 2007 after which it flattened out. However, viewing this development up against the development in terms of managerial actions during the same period, it interestingly shows that environment-related managerial responses in fact show an increasing trend during the entire period except for a short period of stabilization from 2003 to 2007. These results may be interesting for several reasons. First, the general acknowledgement of assigning managerial importance to initiatives, that serve to improve and reflect environmental concern in relation to the firms' activities seem to be both widespread and enduring (c.f. that the data covers a period of 16 years).

Having described the general development in stakeholder influence and associated responses, the focus will now be on a more detailed analysis of the latter. The last part of the period covered in this study, however, was characterized by two rather unusual characteristics. First it was characterized by a period of very fast economic growth (2003-2007) followed by a period of a global financial recession (2007-2011). Starting from the latter, even during a period of an international economic crisis, the companies in this study seem to have continued to increase their environmental initiatives. While this may be a surprise, in the case of a 'nice-to-have' approach to greening of management, these results certainly seem to suggest that the greening has more effectively become internalised and integrated into the firms' activities and thus support the argument of having turned into a lasting endeavour. A possible explanation for the 'flattening' tendency, however, during the peak of the global economic growth period (2003-2007) may be, that during such periods characterized by 'full order books' and 'war of talents', it may be significantly harder to find the necessary time and manpower to start new environmental initiatives.

Stakeholder influence: The stakeholders included in the surveys and their average perceived influence are presented in table 4.2 below. The specific input for this analysis is based on the data collected during the 2011-survey. Stakeholders and their influences, we propose, can be split into different categories depending on the predominant nature of the stakeholders' influence (economic vs political), their predominant form of influence (direct vs indirect) and the actual location of the stakeholders (internal vs external).

Table 4.2. Average responses concerning perceived stakeholder influence and underlying structure in the responses based on a factor analysis.

Stakeholder	Component				Average Response*)
	1	2	3	4	
Employer/Industry organisations	.760				2.32
Distributors	.703				1.94
Industry networks	.662			.399	2.21
Unions	.616				1.76
Research and educational institutions	.542	.309		.363	1.85
Environmental organisations	.470	.397			2.34
Competitors		.786			2.36
Customers		.675	.354		3.30
Consumer organisations	.407	.649			1.94
The press		.621			1.94
Suppliers	.422	.501			2.22
Financial institutions		.431		.427	1.88
National authorities/legislation			.880		3.52
Local authorities/legislation			.814		3.59
International authorities/legislation			.744		3.15
Owners/Shareholders				.733	3.61
Employees			.318	.625	3.16

*) Response scale: no influence (1); little influence (2); some influence (3); a lot of influence (4); enormous influence (5).

Our factor analysis suggests that the stakeholders can actually be grouped into 4 factors using the direct/indirect and internal/external categories. The first factor is characterized as "*external political* stakeholders with an *indirect* influence" involving various extra-organizational stakeholders representing key political and/or interests groups of the labour market. The second factor is labelled "*external* *economic* stakeholders with a *direct* influence", which represents the key economic agents in the market. The third factor is labelled "*external political* stakeholders with a *direct* influence", which includes local, national, and international environmental regulators. The fourth factor is referred to as the "*internal economic* stakeholders with a *direct* influence", and include primary stakeholders without which there will be no going concern. The latter includes owner/shareholders and employees. As can be seen from table 4.2 the influence from the last two groups of stakeholders is perceived to be among the most influential ones with a level around 3.5 whereas the perceived influence from the first two groups of stakeholders are generally considered to be less influential. The existence of secondary loadings in the factor analysis, however, indicates that the influence from some stakeholders could be direct as well as indirect. A typical example is financial institutions, which may influence indirectly on a market basis or directly through owners or shareholders.

Managerial responses: Managerial responses included in the surveys and the extent of their implementation are presented in table 4.3 based on the most recent information from 2011. From the point of view of the manager, it makes sense to consider management work at play in this context as encompassing both a 'strategic dimension' and an 'administrative dimension'. Where the former is forward pointing, the latter is backward focussed.

Table 4.3. Average level of managerial responses and the underlying structure in the responses based on a factor analysis.

Managerial response	Component		Average level of implementation*)
	1	2	
Formulated and published an environmental policy	.859		3.27
Set specific environmental goals	.835		3.28
Responsibility for carrying out environmental strategy	.826		3.14
Formulated and published an environmental strategy	.806		2.94
Regular audits	.794	.402	2.99
Check that the environmental plan is according to plan	.744	.391	2.59
Measured the effect of environmental initiatives	.644	.537	2.86
Been certified according to ISO 14000	.642	.393	2.66
Drawn up environmental accounts/audit	.621	.413	2.91
Published a separate environmental report	.584	.483	2.43
Included environmental information in the annual report	.529	.523	2.56
Input-output matrices		.754	2.58
Carried out product life cycle analyses		.685	2.32
Quantitative measurements of key env. indicators	.522	.632	2.74
Measured the cost effectiveness of env. investments	.479	.604	2.67
Been certified according to the EU's EMAS regulations		.549	1.99
Joined local, national and/or international environmental networks	.421	.541	2.51

*Response scale: not relevant (1); no (2); is considering (3), to some extent (4); to a large extent (5)

An explorative factor analysis allows for factorizing the managerial responses into 2 factors. The first factor can be characterized as "*strategic* management tasks" and the second one as "*administrative* management tasks". As can be seen from table 4. 3, the level of the first group of responses is fluctuating around 3 whereas the level of the last group of responses generally is to be found at a slightly lower level. Again a number of secondary loadings are present indicating that some managerial responses is considered to have a strategic as well as an administrative dimension.

Correlating perceived stakeholder influence and managerial responses: In order to analyse if there might be any statistical relationship between the perceived influence from the stakeholder groups identified in table 4.2 and the groups of managerial responses identified in table 4.3, a simple correlation analysis has been carried out. The result is presented in table 4.4.

Table 4.4. Pearson correlation coefficients of the factors identified in table 4.2 and table 4.3.

	1	2	3	4	5	6
External political stakeholders with an indirect influence (on the firm)	1	.000	.000	.000	.084	.025
External economic stakeholders with a direct influence (on the firm)	.000	1	.000	.000	.099	.052
External political stakeholders with a direct influence (on the firm)	.000	.000	1	.000	.319**	.087
Internal economic stakeholders with a direct influence	.000	.000	.000	1	.189**	.026
Strategic management tasks	.084	.099	.319**	.189**	1	.000
Administrative management tasks	.025	.052	.087	.026	.000	1

** Correlation is significant at the .01 level (2-tailed).

The result in table 4.4 thus points to a situation where strategic responses are significantly correlated with perceived influence from *external political* stakeholders with a *direct* influence (legislative/regulative sources) and *internal economic* stakeholders with a *direct* influence (owner/shareholders) and – the first one almost twice the value of the second one. Since these two stakeholder groups and the group of managerial responses are all at a higher level than the other groups, it seems plausible to conclude that companies are acting in a strategically re-active manner: Managerial responses are mainly driven by influence from *external political* stakeholders with a *direct* influence (legislation/regulation) and are to a less extent due to *internal economic* stakeholders with a *direct* influence (owner/shareholders). However, it must not be neglected that owner/shareholders can be taken as interpreters of influence from the remaining stakeholders. However, the most interesting and important observation here is perhaps that the *external economic stakeholders with a direct influence*, i.e. the market-based stakeholders, do apparently not play a major role.

However, the study also has some limitations. First, as in the case of the majority of survey-based studies, this study is also based on the perceptions and memories of the respondents. We have not physically been visiting each included firm to actual document, if the informed initiatives have been taken (or not). Second, this study has been carried out in a setting (Denmark) known for having experienced a long history of environmental legislation and a business community that has demonstrated a willingness to adopt the legislation. This context may, however, to some extent be categorized as an 'exception from the rule' in a wider geo-political context. Or differently put, similar levels of assigned strategic importance to environmental initiatives can hardly be expected in for example BRIC-economies, where the institutional framework and stakeholder expectations may differ significantly. Therefore there is certainly a need for similar studies in other regions characterized by very different political and institutional environments. It would be interesting to investigate if regions with less regional environmental regulation are more/less inclined to be driven by external stakeholders with a direct influence such as market-based stakeholders relative to regions like Scandinavia. In-depth cross-cultural case studies of environmentally pioneering firms from such different regions would be interesting as they would allow for investigating similarities and differences attributed to institutional and perceived stakeholder influences. Thirdly, the presence of secondary loadings in our factor analyses indicates, that the split into the identified factors is not quite so 'black-and-white' as presented.

5. Implications

This study has several contributions. First, existing empirical insight in the field does not allow for determining if changes in stakeholder influences may significantly affect the actions taken by the firm. The longitudinal nature of this study allows us to show, that even during a longer period of time associated with quite some degree of stakeholder fluctuations over time, the general growth in corporate actions seems to be rather unaffected by such fluctuations in stakeholder influence. This suggests that when firms exceed a certain minimum level of greening (i.e. beyond merely harvesting the lowest hanging fruits) their engagements in the environment seem to become more enduring and thus not so affected by changes in the stakeholder influence. Second, and equally surprising, the study has found that the environmental actions of firms, being engaged in corporate environmental management initiatives over a long time seem rather unaffected by fundamental shifts in the global economic climate. This suggests that such engagement must reflect a more profound change of their recognized environmental responsibility (and associated values) and that implemented environmental initiatives do not necessarily imply a conflict with a traditional bottom line focus. Third, and also contrary to expectations (regarding firms operating in an environment characterized by having had a strict environmental regulation for a long time as well as an accumulated pile of knowhow regarding environmental managements practices), firms' environmental initiatives seem to be driven primarily by *external political* stakeholders with a *direct* influence (environmental regulators). This points towards a continued need for a strict environmental regulation.

Fourth, despite the fact that the firms' strategic environmental actions are perceived to be at a slightly higher level than the corresponding administrative and/or operative level and thus that environmental concern seems to occupy quite some attention at the upper echelon level of management, it does not seem to have translated into more proactiveness. This is interesting considering the time required to do the review and reporting work associated with producing environmental reports and documentation of continuous improvements. This suggests that environmental concern has long been given up as a 'specialist' issue and turned into a 'normal' managerial issue that needs to be recognized and considered along with other relevant strategic issues. Last, but not least, the study seriously challenges the idea, that significant improvements of the firm-natural environment relationship is not likely to occur, if entirely left to the market place to solve (as market-based stakeholder pressure has been assumed to be a strong motivator for taking more environmental initiatives). In terms of policy making, this study therefore reserves a future important role for environmental legislators at regional, national and international level, to provide environmentally more ambitious regulations, which allow for effective monitoring and enforcement.

6. Conclusion

This study set out to answer how corporate decision-makers have been under the influence of various stakeholders during their development and execution of environmental initiatives (responses). In answering this question, the following can be concluded. First, while it certainly is both interesting and important to note, that environmental concern seems to have become a strategically recognized issue for quite a while, it is somewhat surprising to see, that the awareness of the managers and thus the path taken by companies in implementing corporate environmental management has not significantly changed all that much since the pioneering developments of the mid-1990s. This may indicate that there may be a limit as to how far the firms are prepared to go if having to secure a return on their environmental investments within a reasonable time horizon. Second, the general acknowledgement of assigning managerial importance to initiatives, that serves to improve and reflect environmental concern in relation to the firms' overall activities seem to be both widespread and enduring (has been tracked over a period of almost two decades). Third, the findings also indicate, that the average level of managerial actions is a little higher at the strategic level (than at the administrative level). Last and certainly not least, the results show, that corporate managers operating in a region known for its strict environmental legislation and highly competitive business environment, the former (external stakeholders with a direct influence), rather than the latter (internal with a direct influence), are *the* key driver for directing corporate environmental responses.

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